

ASOS MODIFICATION NOTE 22 (for Electronics Technicians)

Engineering Division
W/OSO321:RWC

SUBJECT : Wind Sensor Assembly Upgrade, Firmware Version 3.0

PURPOSE : To add operational enhancements for the ASOS wind sensors

EQUIPMENT AFFECTED : ASOS

PARTS REQUIRED : EPROM, ASN S100-2A8MT1A1A2-U7, P/N 27C512 Rev. 3.0, qty. 1

MODIFICATION PROCUREMENT : Technicians will be issued the parts listed above for each ASOS site identified in the attachment (A-2). Additionally, each technician will be issued an EPROM for the spares kit.

SPECIAL TOOLS REQUIRED : None

TIME REQUIRED : 2 hours

EFFECT ON OTHER INSTRUCTIONS : ASOS Modification Note 8 is superseded.

CERTIFICATION STATEMENT : This modification is authorized by Engineering Change Proposal E94SM05F121. It was successfully tested at eight sites in the Southern and Central Regions and at the Test and Evaluation Branch in Sterling, Virginia.

BIS	SLE
CYS	SAT
MSO	BFF
PDT	ORH

GENERAL

This note provides procedures and instructions for upgrading the ASOS wind system. System upgrading is accomplished by first removing the processor board from the wind system electronics enclosure and replacing EPROM U7 (Revision 3.0 wind firmware). This firmware upgrade changes the wind gust averaging algorithm.

PROCEDURE

Before and After Installation Procedures

Procedures Related to Installation of Wind Firmware Version 3.0

BEFORE INSTALLING FIRMWARE

1. Obtain approval of the site MIC/OIC before starting installation. You may install on any day of the month if permission is granted and the restrictions in step 3 are complied with.
2. Call the AOMC at 1-800-242-8194. Inform the AOMC at which site you will be installing this modification.
3. **Commissioned Sites Only:** Do **not** start installation during bad weather: while precipitation is falling, during instrument flight rule (IFR) conditions, or if either is expected within 3 hours.

AFTER INSTALLING FIRMWARE

4. **IF MANUAL BACKUP IS AVAILABLE**, office staff will implement manual full backup observation procedures if installation runs past the regular hourly observation time or if a special observation must be generated. No special observation is needed when the wind system is restarted.
5. Inform office staff that ASOS is again operational.
6. Verify that ASOS transmitted an hourly observation. Call the AOMC and tell them:
 - a. Your location,
 - b. that installation of the modification has been completed, and
 - c. that ASOS is operational.

WIND SENSOR UPGRADE

1. At the DCP, turn the wind circuit breaker to off.
2. Remove hardware mounting the PCB p/n 82205 assy 31952 in the enclosure, then remove the PCB from the connector.
3. Locate U7 (p/n 31977 Rev. 2.07 or earlier) on the PCB and remove from the socket. (Use the PCB figure on page A-1.)
4. Install new EPROM (Rev. 3.0) in socket, observing proper pin 1 orientation.
5. Make sure EPROM legs do not get bent during installation into socket.
6. Reinstall the PCB into the connector in the enclosure, making sure it is fully seated in position.
7. Restore power to wind system and check for proper operation.

(These procedures can be found in the ASOS Site Technical Manual paragraph 4.5.15.)

SHIPPING INSTRUCTIONS

After the modification has been accomplished, package the EPROMs for shipment to NRC attention Roger Helphrey, ASOS depot repair. Items being returned should include the S100-2A8MT1A1A2-U7 (Rev. 2.07 EPROM).

REPORTING MODIFICATION

For commissioned sites, the target date for completion of this modification is 7 days after receipt of parts. For other sites, the target date for completion is 14 days after receipt of parts. Report completed modification on WS Form A-26, Maintenance Record, following instructions in EHB-4, part 2, using reporting code AWIND. In addition to the instructions provided in EHB-4, Appendix F., the following special guidance applies:

1. Report this modification using the EMRS Electronic Data Entry System.
2. Those sites whose Regional EMRS accounts have not been activated shall report this modification using the EMRS Electronic Data Entry System Demo account.
 - a) Direct Dial Phone Number: 301-713-1924
 - b) USER NAME: EMUSER
 - c) PASSWORD: Repair
3. Record the firmware revision number in block 18.e. (do not record the serial number of the new part).
4. As per the instructions in EHB-4, Appendix F., ensure that the required information is provided on the electronic A-26. (example A-26 provided as attachment A-3).

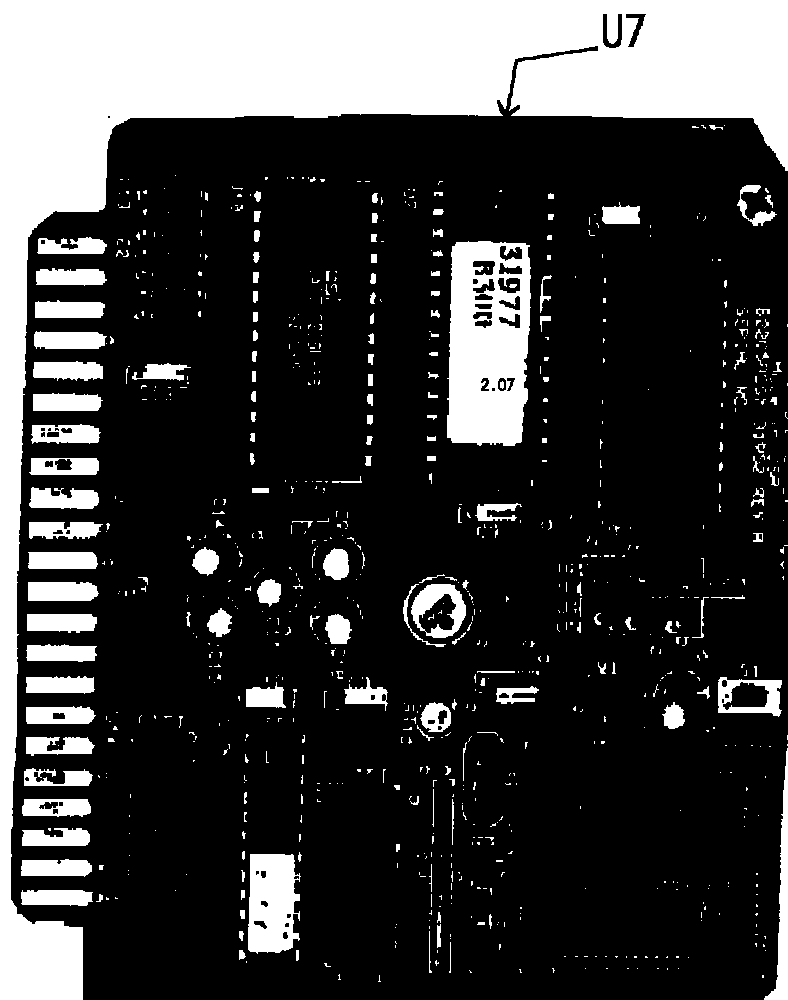
Make appropriate entries in the SYSLOG using the Maintenance Action keys, modification keys and comment fields. Follow the steps in the example below.

1. Log on as TECH.
2. Key the MAINT screen.
3. Key the ACTION page.
4. Key START - Stop here and perform the modification procedure.
After the task is complete, log on the system.
5. Key the MAINT screen.
6. Key the ACTION page.
7. Key FMK - the OID will display the "Field Modification Kit Maintenance Data" page.
8. Enter the Field Modification Kit Number, MOD 22. Complete by entering Y in the Y/N if the information in the previous two lines is correct.
9. Check the SYSLOG and verify the FMK message. Notify the AOMC as described in Step 6 of the After Installation Procedure.

J. Michael St. Clair
Chief, Engineering Division

Attachments

W/OSO321:RWChambers:rhz:12/15/94:disk EHB11-E:"AMOD22.new" spellchecked
corrected & retyped 12/19/94:rz:rev:12/21/94:sol



WIND PROCESSOR
BOARD

LISTING OF SIDs REQUIRING WIND SENSOR MODIFICATION NOTE 19

07S 0A6 1S4 21A 22G 2B6 2V3 39J 3KM 3R5
 3S2 3SM 3U6 47C 5B5 5C0 6R0 6V2 7G2 7MY
 81J 9B9 A21 ABR ACT ACY ADG ADQ AFN AGS
 AIA AKN AKO ALB ALS ALW AMA AMW ANC AOH
 APN ARA ARB ARR AST ATL ATY AVX AXN AZO
 B20 BDE BEH BFD BFF BFM BGD BGM BHM BIL
 BIS BIX1 BIX2 BIX3 BJJ BKV BLF BLU BMG BML
 BPI BPK BRD BRO BTL BTM BTR BTT BUY BVO
 BWG BYG BZN C19 CAE CAG CDB CDS CEU CFV
 CGI CKB CKV CLE CLM CNK CNU COS COU CPS
 CQX CRS CRW CSG CSM CXO CYS DAB DCU DDC
 DEC DET DFI DGW DHN DHT DKK DLN DMO DNL
 DRO DSM DSV DTN DTO DTW DVN DVX E02 ELM
 ELN ELY EMP ENA ENW EPH ERI ESF EST EVV
 EVW EWB EWN F54 F90 FAI FCA FDR FFC FFT
 FHR FIT FLD FNT FOE FOK FSD FST FVE FWA
 GAG GCK GCN GEG GEY GIF GKN GLD GLR GOK
 GRB GRI GRR GSH GTF GVL GWO HAO HBG HBR
 HDO HEI HFD HIE HKA HKS HLG HLN HOM HON
 HOT HRO HSI HSV HTL HUF HUT HVN HVR HWV
 HYR I14 I15 ICT IJD IMT IOW IPT ISW ITO
 IXD JAN JAX JBR JEF JKL KNFJ KNJW KNMM KOA
 KOLA KOLW KTN LAA LAN LAW LBT LEE LEX LGU
 LHX LIH LIT LNK LOU LOZ LVM LWC LWS LWV
 M06 M50 M76 MAE MAI MBS MCB MCG MCI MCK
 MCN MCO MEB MEM MFD MFI MGM MGW MGY MHK
 MIC MIW MKE MKG MKL MKO MLC MLI MLS MLT
 MLU MMV MNN MPV MRH MRI MSL MSN MSO MTH
 MTJ MTO MVL MWH N00 N22 N63 N80 N97 NED
 NEXC O18 O45 OFP OGB OGG OJC OKC OLF OLM
 OMK ONO ORE ORH ORT OVE PADK PAH PAQ PBF
 PBI PDT PGD PHBK PHD PHNA PHX PIA PIR PKD
 PLB PLN PNC PPF PSC PTK PTW PUB PUW PWA
 PWM PYM RAC RBG RFD RHI RIL RKP RSL RVS
 RZZ S22 SAV SBM SBN SCC SCK SDF SEG SFF
 SGF SIT SLK SLN SMF SMP SMX SNY SOV SPI
 SPS SPW STC STJ STP SUX SWD SWO SXT SYR
 T02 T27 T31 T39 TAL TAN TCL TDZ THV TLH
 TMB TOI TOP TOR TQE TRL TUL TUP U11 U73
 UCA UNO VEL VPZ VSF W52 WLD WVI X41 YKM
 YNG ALO ASX BIH BPT CLL CMI COT CRP DBQ
 DRA HKS IAH INL INW KNQI KNUQ KNYL LBX MRY
 OMA RBL RDD RNO RST SAT SEL TPH VTN